

REMARKS

Prior to this Amendment, claims 1-24 are pending in the application. In the pending Office action, the Examiner rejected claims 1-24 as being unpatentable in view of cited prior art. Applicants are canceling claims 1 and 2; and amending claims 3, 10, 16, and 24. For claims 3, 10, and 16, Applicants have amended claims 3, 10, and 16 into independent form including all the limitations of the base claim. Claims 3, 10, and 16 have not been narrowed. Rather, claims 3, 10, and 16 have been rewritten solely for form. See 35 U.S.C. § 112, ¶ 4. Applicants are amending claim 24 to change the dependency of claim 24. Applicants traverse the rejection of claims 3-24, and request reconsideration of the application in view of the remarks contained herein.

The Examiner rejected the application as being obvious over numerous references. More specifically, the Examiner rejected

- claims 1 and 2 as being unpatentable over U.S. Patent No. 4,448,279 (Watanabe) in view of U.S. Patent No. 5,175,439 (Harer);
- claims 1 and 2 as being unpatentable over U.S. Patent No. 5,415,245 (Hammond) in view of U.S. Patent No. 5,175,439 (Harer);
- claims 3-7 and 9-24 as being unpatentable over Hammond in view of Harer and further in view of U.S. Patent No. 5,929,611 (Scott); and
- claim 8 as being unpatentable over Hammond in view of Harer and further in view of Scott and further in view of U.S. Patent No. 5,072,714 (Bengtsson et al.).

Applicants canceled claims 1 and 2, thereby rendering the rejection of claims 1 and 2 moot.

Amended claim 3 is repeated below for the Examiner's reference:

A vehicle comprising:
a plurality of wheels;
an internal combustion engine having a drive shaft interconnected to drive at least one of the wheels;
a stator having a core and a plurality of conductors disposed on the core in a three-phase arrangement;
a flywheel-rotor apparatus disposed adjacent to the stator and interconnected with the drive shaft, the flywheel-rotor apparatus being operable to magnetically interact with the stator to produce a high-voltage, three-phase alternating current in the conductors, and to provide an inertia to the internal combustion engine;
power circuitry electrically connected to the plurality of conductors, the power circuitry being operable to receive the high-voltage, three-phase alternating current and to controllably generate a first-voltage, single-phase alternating current;
an electrical outlet electrically connected to the power circuitry, the electrical outlet being configured to receive the single-phase alternating current and make the single-phase alternating current available for use by an operator;
wherein the stator further includes a low-voltage conductor disposed on the core; and
wherein the flywheel-rotor apparatus magnetically interacts with the low-voltage conductor to produce a second-voltage, single-phase alternating current in the low-voltage conductor.

For establishing a *prima facie* case of obviousness, three basic criteria must be met.

M.P.E.P. § 2143.

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Applicants assert that the Examiner's proposed combination for claim 1 does not meet the *prima facie* case of obviousness.

The Examiner contends,

Regarding claim 3, the vehicle of Hammond modified by Harer et al. includes all of the limitations of the claimed invention with the three-phase alternating current including a high-voltage, three-phase alternating current, wherein the single-phase alternating current includes a first-voltage, single-phase alternating current except for the stator further including a low-voltage conductor disposed on the core, and the flywheel-rotor apparatus

magnetically interacts with the low-voltage conductor to produce a second-voltage, single-phase alternating current in the low-voltage conductor.

Applicants assert the combination of the Hammond and Harer references does not show “an internal combustion engine having a drive shaft interconnected to drive at least one of the wheels,” where the drive shaft is also interconnected with the flywheel-rotor apparatus. With reference to Fig. 5 of the Hammond reference, the reference describes an engine 12 having a drive shaft interconnected to drive a rotor 52 of a generator 13. The generator produces DC power that is provided to a DC motor 14 via bus bars 54 and 55. The DC motor 14 includes a shaft interconnected to drive wheels 16 via vehicle drive means 15. The drive shaft of the engine 12 is not interconnected to drive at least one of the wheels 14. Therefore, the Hammond reference does not teach or suggest all the limitations of claim 3. Moreover, the Harer reference does not disclose any structure for the vehicle and the Scott reference, which will be discussed further below, is directed to a human-portable generator. Therefore, the Hammond and Scott references do not cure the just-discussed deficiency of the Hammond reference. Accordingly, claim 3 is allowable because the cited references, when combined, do not teach or suggest all the claim limitations of claim 3 (i.e., does not meet the third prong of a *prima facie* case of obviousness), and Applicants request indication that claim 3 is allowed.

Referring back to claim 3, as acknowledged by the Examiner, the combination of the Hammond and Harer references also do not teach or suggest that the stator further includes a low-voltage conductor disposed on the core and the flywheel-rotor apparatus magnetically interacts with the low-voltage conductor to produce a second-voltage, single-phase alternating current in the low-voltage conductor. Instead, the Examiner uses the Scott reference to cure the deficiencies of the Hammond and Harer references. Applicants assert that claim 3 is not obvious in view of the Hammond, Harer, and Scott references, and that the Examiner has not established a *prima facie* case of obviousness.

There must be some suggestion or motivation to modify the references or to combine the references teachings. *M.P.E.P.* § 2143. Applicants remind the Examiner, the teaching or suggestion to make the claimed combination must be found in the prior art, and not based on applicant’s disclosure. *M.P.E.P.* § 2143. See also *M.P.E.P.* § 2142 (“To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must

expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. [Citations omitted].”) The Examiner has not provided any reasoning why the artisan would modify the references or combine the reference teachings. Instead, the Examiner only states, “Since Hammond, Harer et al., and Scott et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.” However, the mere fact that the references can be combined does not render the resultant combination obvious unless the prior art suggests the desirability of the combination. *M.P.E.P.* § 2143.01.

Additionally, the references are not from the same field of endeavor as the Examiner asserts. The Hammond reference discloses a vehicle including a high inertia acyclic DC generator coupled to an internal combustion on-off engine, wherein the generator provides indirect propulsion of a vehicle. The Hammond system is designed for providing hybrid vehicle propulsion. The Harer reference discloses a vehicle power supply system for providing power to a 24-volt (or similar voltage) battery, low voltage DC “consumers,” and a 220 volt, 50 Hz plug receptacle. The Harer system is not designed for hybrid vehicle propulsion. The Scott reference discloses a lightweight, portable engine-driven generator. The Scott generator set is designed for a human to carry. Therefore, the reference are not from the same field of endeavor.

Furthermore, there is no reasonable expectation of success for combining the three systems. Each reference describes a system that is specific to the problem addressed by the reference. For example, the Hammond reference describes a high inertia acyclic generator that interacts with a motor to provide a Ward-Leonard system. The Harer reference describes a system including a single, three-phase winding (and pulse inverter) for powering a bus, and a plurality of converters connected to the bus for providing multiple voltages. The Scott reference describes a generator set including a first three-phase winding for providing a first voltage, a second three-phase winding (having taps) for providing a second and third voltages, and a single phase winding for providing a control signal. It would not be reasonable to combine the three references based only on the teachings of the references. The reasonable expectation of success must be found in the prior art. *M.P.E.P.* § 2143. The claimed invention cannot be used as a

roadmap for combining the references. Accordingly, claim 3 is allowable over the combination of the cited references, and Applicants request indication that claim 3 is allowed.

Claims 4-9 and 24 depend, either directly or indirectly, from claim 3, and consequently, include patentable subject matter for the reasons set forth above with respect to claim 3. Therefore, dependent claims 4-9 and 24 are allowable. Additionally, claims 4-9 and 24 specify additional elements and/or limitations that, in combination with claim 3, are believed to be patentable.

Claims 10 and 16 were rewritten into independent form including all the limitations of claim 1, and were rejected as being obvious in view of the combination of the Hammond, Harer, and Scott references. Claims 10 and 16, like claim 3, recite “an internal combustion engine having a drive shaft interconnected to drive at least one of the wheels,” where the drive shaft is also interconnected with the flywheel-rotor apparatus. The arguments from claim 3 pertaining to these limitations also apply to claims 10 and 16. Additionally, all arguments from claim 3 as to why Hammond, Harer, and Scott should not be combined (i.e., there is no motivation or reasonable expectation of success) also apply to claims 10 and 16. Accordingly, claims 10 and 16 are allowable, and Applicants request indication that claims 10 and 16 are allowed.

Claims 11-15 and 17-23 depend, either directly or indirectly, from either claim 10 or claim 16, and consequently, include patentable subject matter for the reasons set forth above with respect to claims 10 and 16. Therefore, dependent claims 11-15 and 17-23 are allowable. Additionally, claims 11-15 and 17-23 specify additional elements and/or limitations that, in combination with either claim 10 or claim 16, are believed to be patentable.

CONCLUSION

Entry of the Amendment and allowance of claims 3-24 are respectfully requested. The undersigned is available for telephone consultation at any time during normal business hours.

Respectfully submitted,



Casimir F. Laska
Reg. No. 30,862

Docket No.: 018367-9704
Michael Best & Friedrich LLP
100 East Wisconsin Avenue
Milwaukee, Wisconsin 53202-4108

(262) 956-6560

N:\Client\018367\9704\F0074406.1